

REMARKS**I. Status of the Application.**

Claims 1-18 of the present application are pending. In the December 4, 2002 Office Action, the Examiner rejected claims 1-18 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,030,253 to Tokuhiko et al ("Tokuhiko") in view of U.S. Patent No. 4,844,874 to deVries ("deVries").

In this response, Applicant has amended claims 1, 5 and 14. Accordingly, claims 1-18 are pending in the present application. Applicant respectfully traverses the Examiner's rejection of claims 1-18 and requests reconsideration of the pending claims in view of the foregoing amendments and the following remarks.

II. The Rejection of Claims 1-18 Under 35 U.S.C. § 103(a) Should Be Withdrawn.

In the December 4, 2002 Office Action, the Examiner rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over Tokuhiko in view of deVries. Applicant respectfully traverses the Examiner's rejection of claims 1-18 and requests that the rejection be withdrawn.

A. Applicant's Invention.

Independent claims 1, 5 and 14, as amended and as originally filed, are directed toward a vapor delivery system and method for neutralizing malodors in a malodorous area located outside of the vapor delivery system. As pointed out in the specification and claims, with particular reference to Fig. 14, a stream of ambient air from the atmosphere enters the air intake port (152) of the vaporization chamber (100). An outlet port (168) is positioned substantially diametrically opposed to the intake port in the vaporization chamber. Nothing is positioned between the intake port and the outlet port in the vaporization chamber. This arrangement in

Applicant's invention allows a stream of air to pass directly through the vaporization chamber by exiting the chamber directly across from the entry to the chamber, and thereby assists in encouraging a large volume of air to pass through the system, e.g., between 600 and 2000 cubic feet per minute (see page 15 of the specification). A nozzle (22) delivers a liquid deodorant into the vaporization chamber. The stream of ambient air travels through the vaporization chamber to create a stream of treated ambient air. The stream of treated ambient air is then released from the vaporization chamber to a distribution system.

B. Tokuhiro

Tokuhiro discloses a fragrant air supplying method and system. As shown in Fig. 2, the system includes an evaporator (17) having an air nozzle (37) and a fragrance nozzle (35) positioned therein. A blower (16) provides compressed air to the evaporator through the air nozzle. The blower also provides air to an extension (28) through a pipe (39). The air provided to the vaporizer is designed to collide with an air buffer (38). (See Fig. 2). The air provided through the pipe is delivered to an impactor (18) after entering the extension (28). After passing through the impactor, fragrant air passes through a connection pipe (29) to an air duct (12) that distributes the air to a room. In an alternative embodiment of the invention, a vibrator is positioned between the extension (28) and an air receiving extension (45).

Tokuhiro does not disclose all the elements of independent claims 1, 5 or 14. In particular, Tokuhiro does not disclose a vaporization chamber having diametrically opposed intake and outlet ports "having no obstructions positioned therebetween" that would encourage the circulation of air within the vaporization chamber, as required in some form in each of claims 1, 5, and 14. By contrast, Tokuhiro discloses an apparatus in which the air delivered to an evaporator is directed to an air buffer or a sidewall of the evaporator, impeding the flow of the

air, causing the air to thoroughly mix within the evaporator, and limiting the air flow rate through the system. (See Fig. 2 and column 4, lines 18-21). Furthermore, Tokuhiko discloses another apparatus in which the a vibrator (43) is positioned between an air receiving extension (45) and mist-discharging extension (28) within a fragrance evaporator (17). Air entering the evaporator (17) is spread under the vibrator (43). (See Fig. 3, lines 57-64). Accordingly, Tokuhiko does not disclose all of the elements of claims 1, 5 and 14.

C. deVries

deVries discloses a mist scrubbing system for removal of odorous compounds from waste gas streams (see col. 3, lines 23-48). Accordingly, deVries is clearly directed to a typical prior art scrubber that treats polluted air in an exhaust system.

In the December 4, 2002, office action, the Examiner states that deVries was cited for the sole reason of showing a spray nozzle for receiving a stream of pressurized air. (See p.3, lines 18-20, and page 5, lines 18-20) However, deVries fails to teach the limitations set forth in independent claims 1, 5 and 14. For example, deVries does not disclose a vaporization chamber having diametrically opposed intake and outlet ports "having no obstructions positioned therebetween" as required in some form in each of claims 1, 5 and 14.

D. Tokuhiro in View of deVries

Neither Tokuhiko nor deVries, alone or in combination teach or suggest all of the claim limitations. For example, neither Tokuhiko nor deVries discloses a vaporization chamber having diametrically opposed intake and outlet ports "having no obstructions positioned therebetween" as required in some form in each of claims 1, 5 and 14. Therefore, the Examiner's rejection of claims 1, 5 and 14 under 35 U.S.C. § 103(a) should be withdrawn. Additionally, because claims 2-4, 6-13 and 15-18 depend from and incorporate all of the limitations of independent claim 1, as

amended, it is respectfully submitted that the Examiner's rejection of these claims should also be withdrawn.

III. Conclusion

For all of the foregoing reasons, it is respectfully submitted that Applicant has made a patentable contribution to the art which clearly distinguishes over and is patentable over the cited art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event Applicant has inadvertently overlooked the need for an extension or payment of an additional fee, Applicant conditionally petitions therefore, and authorizes any deficiency to be charged to deposit account number 09-0007.

Sincerely,



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Enclosures: Return Postcard
Exhibit A-Version of Claims with
Markings to Show Changes Made

cc: Jim May



EXHIBIT A

VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

- 1 (Twice Amended) A vapor delivery system for neutralizing malodors in a malodorous area, the vapor delivery system comprising:
 - a. a vaporization chamber having a sidewall positioned between a chamber ceiling and a chamber floor, the sidewall including an intake port positioned on the sidewall substantially diametrically opposed to an outlet port also positioned on the sidewall, the intake port and outlet port allowing the stream of air to enter said vaporization chamber through said intake port and exit said vaporization chamber through said outlet port, said vaporization chamber otherwise being enclosed with no obstructions positioned between the intake port and the outlet port;
 - b. at least one nozzle having a spray tip directed toward said chamber floor, said at least one nozzle receiving a stream of liquid to allow said nozzle to deliver an atomized spray of liquid into said vaporization chamber, said atomized liquid being vaporized in the vaporization chamber and incorporated in said stream of air to create a stream of treated air; and
 - c. a distribution system communicating with said outlet port for delivering said stream of treated air to the malodorous area, said distribution system having at least one vapor release port for releasing said treated air stream to the malodorous area.

- 2 The vapor delivery system of claim 1 wherein said air intake port communicates with an air filter for removing air bound particles from said air stream before entering said vaporization chamber.
- 3 The vapor delivery system of claim 1 wherein said spray tip of said nozzle is positioned in said chamber ceiling.
- 4 The vapor delivery system of claim 1 further comprising a blower connected between said chamber outlet port and said distribution system, said blower operable to draw said stream of air into said air intake port and push said stream of treated air through said distribution system.
- 5 (Twice Amended) A method of neutralizing malodors comprising the steps of:
- a. providing an enclosed vaporization chamber having a chamber wall positioned between a chamber ceiling and a chamber floor, the chamber wall having an intake port and a diametrically opposed outlet port **having no obstructions positioned therebetween for encouraging circulation of air within the enclosed vaporization chamber;**
 - b. drawing a stream of ambient air not received from an exhaust stream through said intake port and into said vaporization chamber such that the stream of ambient air travels through the vaporization chamber from the intake port to the diametrically opposed outlet port;
 - c. spraying an atomized liquid deodorant into said vaporization chamber through a nozzle having a spray tip;
 - d. bringing said stream of ambient air into contact with said atomized liquid deodorant in said vaporization chamber so that said liquid vaporizes into said

stream of ambient air to create a stream of treated air leaving the vaporization chamber; and

- e. delivering said stream of treated air through said outlet port to a distribution system having at least one vapor release port for releasing said stream of treated air from said distribution system.

6 The method of claim 5 wherein the spray tip of the nozzle sprays liquid deodorant toward said chamber floor.

7 The method of claim 6 wherein the spray tip of the nozzle is positioned above the intake port and the outlet port in the vaporization chamber.

8 The method of claim 7 wherein the spray tip of the nozzle sprays liquid deodorant from the nozzle in a direction substantially perpendicular to the stream of ambient air traveling through vaporization chamber from the intake port to the diametrically opposed outlet port.

9 The method of claim 5 wherein the spray tip of the nozzle sprays liquid deodorant toward said chamber ceiling.

10 The method of claim 9 wherein the spray tip of the nozzle is positioned above the intake port and the outlet port in the vaporization chamber.

11 The method of claim 10 wherein the spray tip of the nozzle sprays liquid deodorant from the nozzle in a direction substantially perpendicular to the stream of ambient air traveling through vaporization chamber from the intake port to the diametrically opposed outlet port.

12 The vapor delivery system of claim 1 wherein the spray tip is arranged and disposed to deliver the atomized spray of liquid in a direction substantially perpendicular to the

stream of air traveling between the inlet port and the outlet port in the vaporization chamber.

13 The vapor delivery system of claim 12 wherein the spray tip is arranged and disposed above the inlet port and the outlet port in the vaporization chamber.

14 (Once Amended) A vapor delivery system for neutralizing malodors in a malodorous area, the vapor delivery system comprising:

- a. a vaporization chamber for vaporizing a liquid in a stream of ambient air before delivery of the liquid to the malodorous area located outside of the vaporization chamber, the vaporization chamber having a sidewall positioned between a chamber ceiling and a chamber floor, the sidewall including an intake port positioned on the sidewall substantially diametrically opposed to an outlet port also positioned on the sidewall, the intake port positioned to receive the stream of ambient air not received from an exhaust stream, the intake port and outlet port **having no obstructions therebetween for encouraging the circulation of the stream of ambient air within the vaporization chamber, thereby** allowing the stream of air to enter said vaporization chamber through said intake port and exit said vaporization chamber through said outlet port, said vaporization chamber otherwise being enclosed;
- b. at least one nozzle having a spray tip directed toward said chamber ceiling, said at least one nozzle receiving a stream of liquid to allow said nozzle to deliver an atomized spray of liquid into said vaporization chamber, said atomized liquid being vaporized in the vaporization chamber and incorporated in said stream of air to create a stream of treated air; and

- c. a distribution system communicating with said outlet port for delivering said stream of treated air to the malodorous area, said distribution system having at least one vapor release port for releasing said treated air stream to the malodorous area.
- 15 The vapor delivery system of claim 14 wherein said air intake port communicates with an air filter for removing air bound particles from said air stream before entering said vaporization chamber.
- 16 The vapor delivery system of claim 14 further comprising a blower connected between said chamber outlet port and said distribution system, said blower operable to draw said stream of air into said air intake port and push said stream of treated air through said distribution system.
- 17 The vapor delivery system of claim 14 wherein the spray tip is arranged and disposed to deliver the atomized spray of liquid in a direction substantially perpendicular to the stream of air traveling between the inlet port and the outlet port in the vaporization chamber.
- 18 The vapor delivery system of claim 17 wherein the spray tip is arranged and disposed above the inlet port and the outlet port in the vaporization chamber.